CALIFORNIA
ENERGY
COMMISSION

Interim Report to the Governor
Spring 2006 Petroleum Fuels Price Spike

JUNE 2006
CEC-600-2006-009

Arnold Schwarzenegger, *Governor*

Preliminary Findings

- The rapid increase in wholesale and retail transportation fuel (gasoline and diesel fuel) prices in California from mid April to early May 2006 was not a nationwide event. Although prices rose nationwide in March and early April, the spike from April 18 to May 9, 2006, was isolated to the California region and not evident in other areas of the country.
- For three weeks, from April 18 until May 9, 2006, California fuel prices spiked and Californians paid $122 million more for retail gasoline and diesel fuel than normal.
- Since the majority of gasoline and diesel fuel sold in Arizona and Nevada originates from refineries located in California, a later report will examine whether prices for these fuels were similarly impacted in these states.
- The California Energy Commission (Energy Commission) will continue its analysis during the summer months of factors which may have contributed to the rapid increase in wholesale and retail prices. The final report will cover two general areas:
  - refinery operations, inventory levels, pipeline exports, marine infrastructure congestion, transition to new fuel specifications, changing demand for gasoline and diesel fuel, and industry costs and profits
  - an estimate of the financial impact on consumers and businesses of higher retail transportation fuel costs, aggregated costs and profits for California's petroleum refining and retail sectors in comparison to other regions of the United States, and comparison of the profitability of California's refining industry to other types of energy and non-energy businesses
- The Energy Commission and the California Attorney General are working cooperatively to collect detailed confidential information from oil companies conducting business in California.
- The Energy Commission has sufficient statutory authority to conduct an *ad hoc* investigation into petroleum refining and retail operations in the state, including collecting detailed information on petroleum industry costs and profits.
- If the Energy Commission is to routinely collect this type of information, the Petroleum Industry Information Reporting Act (PIIRA), California Public Resources Code (PCR) sections 25354, would need to be amended.
- If PIIRA is amended, the Energy Commission could perform analysis and periodically publish reports summarizing the profitability of California's refinery and retail gasoline and diesel fuel operations in comparison to the rest of the United States.
- Changes to the California Revenue and Taxation Code and the California Civil Code would permit the Board of Equalization to share certain data pertaining to gasoline retail stations which is currently protected under confidentiality language in these statutes. This would allow the Energy Commission to improve its analysis of the retail service station market.

Background

On April 24, 2006, Governor Schwarzenegger directed the Energy Commission to initiate an investigation into the causes of recent gasoline and diesel fuel price increases.[1] The investigation involves a thorough analysis of the petroleum industry's profits, both within California and within the U.S. as a whole, and comparison of those profits to profits earned by other types of businesses during the same period. In addition, the Energy Commission is directed to report to the Governor any instances of suspected market manipulation, price gouging,[2] or unfair business practices and to pass along to the California Attorney General any related information discovered in its investigation.

The Energy Commission Chairman responded to the Governor's directive, describing in an April 25 letter the Energy Commission's proposed actions.[3] Energy Commission staff began to analyze the recent price spike and will issue two reports -- an Interim Report on June 15, 2006, and a Final Report on September 30, 2006. This Interim Report contains preliminary staff findings and addresses whether deficiencies exist in the Energy Commission's statutory authority to collect information relevant to the Governor's directive. The Final Report will include an assessment of the petroleum industry's profitability in California and will compare it to the U.S. petroleum industry as a whole, and to the profitability of other types of businesses.

The California Attorney General announced on April 27, 2006, the creation of a multi-disciplinary task force within his agency to continue an ongoing investigation of California's oil and gasoline markets.[4] The task force consists of experts from the Attorney General's antitrust, corporate responsibility, consumer law, and criminal units. In addition, the Attorney General announced that his office will subpoena officers of all 21 California oil refineries to obtain information that will enable his staff to determine what portions of the recent increase in refiners' margins are attributable to costs and what portions are attributable to profits.

Historically, the Energy Commission has analyzed a number of significant gasoline price increases. The most recent work studied the rapid increase of gasoline prices following the passages of Hurricanes Katrina and Rita through the Gulf of Mexico's crude oil and natural gas production areas, and their subsequent landfalls along the U.S. Gulf Coast, occurring during the summer of 2005. This previous work determined that the damage caused by the hurricanes temporarily curtailed up to 30 percent of the nation's refining capacity, resulting in dramatic price spikes for transportation fuels throughout the United States.[5] Further, the report detailed the linkage between gasoline wholesale markets in California and energy commodity transaction activity on the New York Mercantile Exchange (NYMEX). The report concluded that the increased gasoline contract values experienced on NYMEX had the strongest influence on California's transportation fuel price increases.[6]

Three areas covered in the current investigation were not examined in last year's report:

- An analysis of profits and costs for petroleum refining and retail operations
- a study of wholesale and retail diesel fuel price impacts
- Identification of information collection authority that may be lacking under current Energy Commission statutes

This last item is addressed in this Interim Report. The remaining topics will be covered here briefly, and will be addressed in greater detail in the Final Report.

Energy Commission Actions to Date

Shortly after the Governor issued his directive to conduct an investigation, the Energy Commission updated the *California Consumers Fuels Watch* web page[7] and increased the publication frequency of the *Petroleum Watch*. The web page provides consumers with

- Access to gasoline and diesel fuel price information
- Tips to reduce their gasoline costs
- Link to the Attorney General's web page that contains a complaint form[8] used by individuals to report suspected instances of price gouging

The *Petroleum Watch* is normally a monthly publication that provides useful background information on petroleum markets, with an emphasis on California. The Energy Commission increased the frequency of this publication to weekly. Crude oil, wholesale, and retail fuel prices are charted and discussed in the *Petroleum Watch*. Geopolitical events are highlighted in the context of their potential impact on global crude oil prices. California refinery production and inventory levels are compared to previous reports and to highs and lows for the previous five years, to better understand how the market for gasoline and diesel fuel can be impacted by the changing dynamics of petroleum supply.

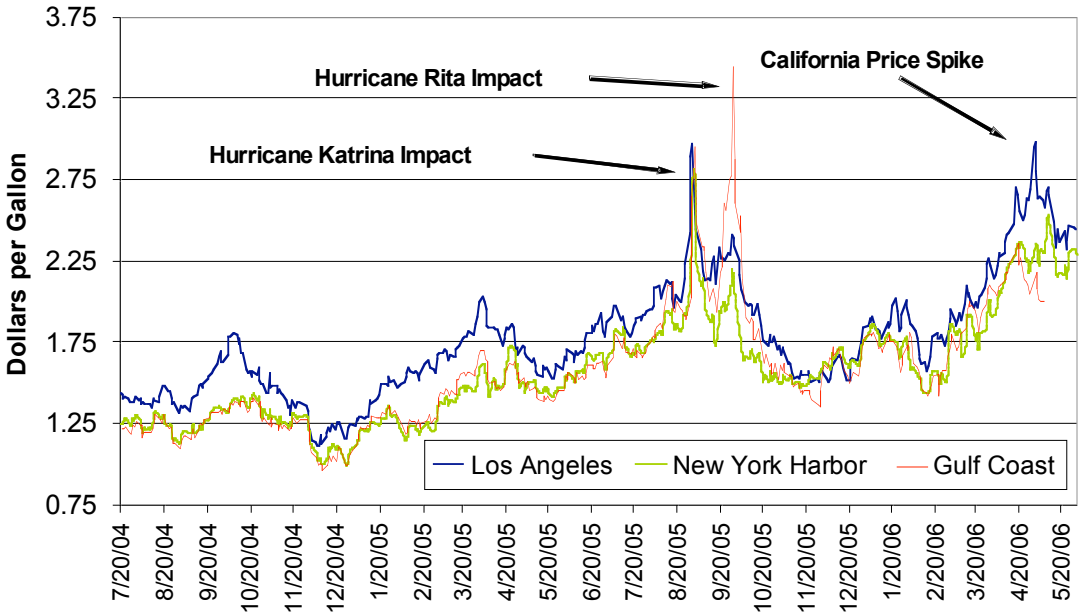
Spring 2006 Price Spike

The genesis for the Governor's directive to the Energy Commission was the rapid increase in wholesale and retail transportation fuel prices that occurred during the spring of 2006, with spot pipeline gasoline prices peaking at $2.97 during the first week of May 2006.[9] Over a period of approximately 10 weeks, the wholesale price for gasoline and diesel fuel increased by $1.41 and 93 cents per gallon, respectively. This large increase is attributable, in part, to rising crude oil prices and seasonal increases over the same period of time.

However, the magnitude and rapidity of these price increases were not unusual, even by California standards. For comparison, the wholesale price of gasoline increased by $1.01 cents per gallon between August 18 and August 31, 2005, due in large part to the temporary supply impacts for the United States that were caused by damage inflicted by Hurricane Katrina.[10] **Figure 1** illustrates the spot gasoline prices in Los Angeles, New York Harbor, and the U.S. Gulf Coast since July 2004. As this chart indicates, the Hurricane Katrina gasoline price spike was less in magnitude ($1.01 versus $1.41 cents per gallon) but much more rapid --13 days versus 10 weeks).

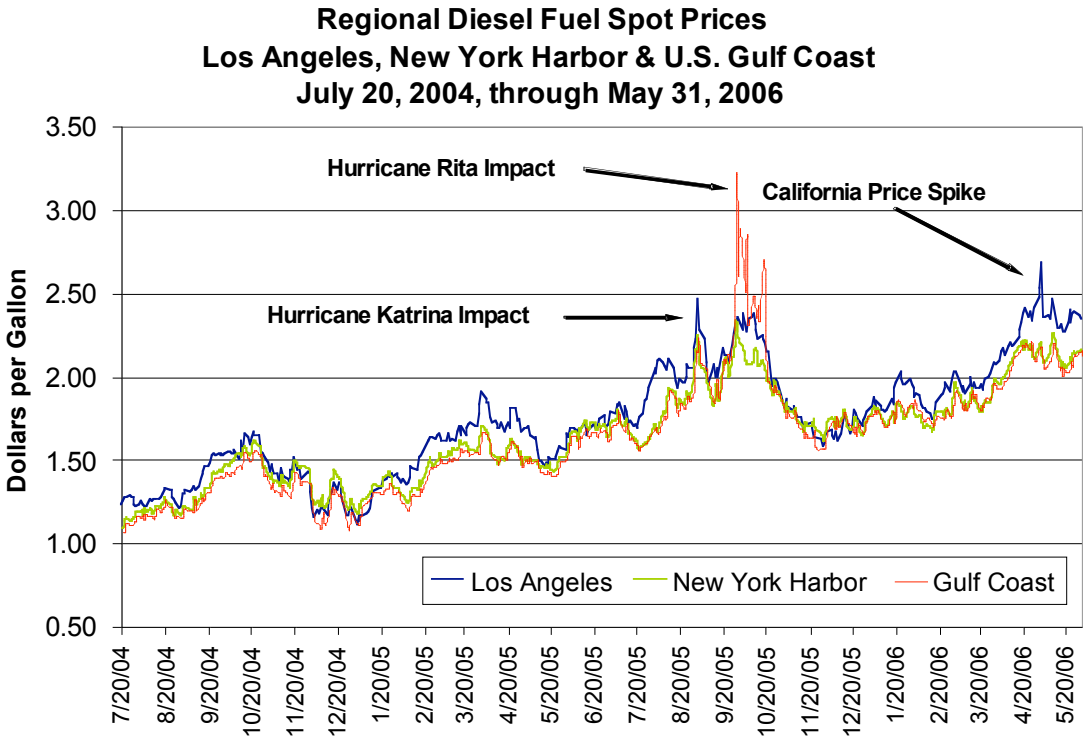
Figure 1

Regional Gasoline Spot Prices
Los Angeles, New York Harbor & U.S. Gulf Coast
July 20, 2004, through May 31, 2006



The regional spot prices for diesel fuel follow a similar pattern, peaking on or near the same dates as the regional spot gasoline prices. **Figure 2** depicts the spot prices for diesel fuel for Los Angeles, New York Harbor, and the U.S. Gulf Coast areas.

Figure 2



Analytical Approach

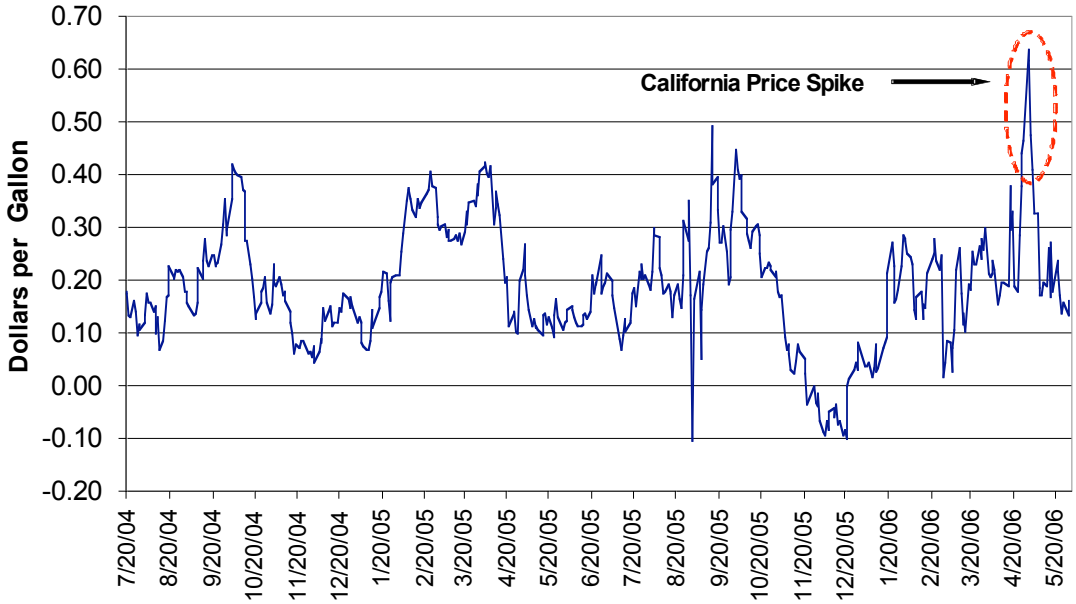
Although the price spike in California last summer was significant, wholesale prices for gasoline and diesel fuel in other regions of the country increased with similar speed and reached levels near or exceeding those in this state. This fact illustrates the point that the price increase last summer was not isolated to any specific region, such as the California market. Therefore, one of the first steps in the analysis of the spring 2006 price spike was to examine transportation fuel markets in other areas of the United States to determine if the event was widespread or isolated to a smaller region of the United States.

One way to determine if California's increase was an isolated event is to compare prices of similar types of gasoline and diesel fuel in different regions of the United States. **Figure 3** illustrates the difference in spot prices of a similar type of gasoline between Los Angeles and New York Harbor. Los Angeles prices are normally higher than those in New York Harbor due to some differences in quality and access to sources of outside supply (imports).

Over the entire period depicted in this figure, the gasoline spot price difference averaged 19 cents per gallon. Examining smaller periods of time, the difference has remained remarkably similar. For example, during the last half of 2004 the difference averaged 18 cents per gallon, compared to an average difference of 19 cents per gallon for all of 2005.

Figure 3

Regional Gasoline Spot Price Difference
Los Angeles less New York Harbor
July 20, 2004, through May 31, 2006

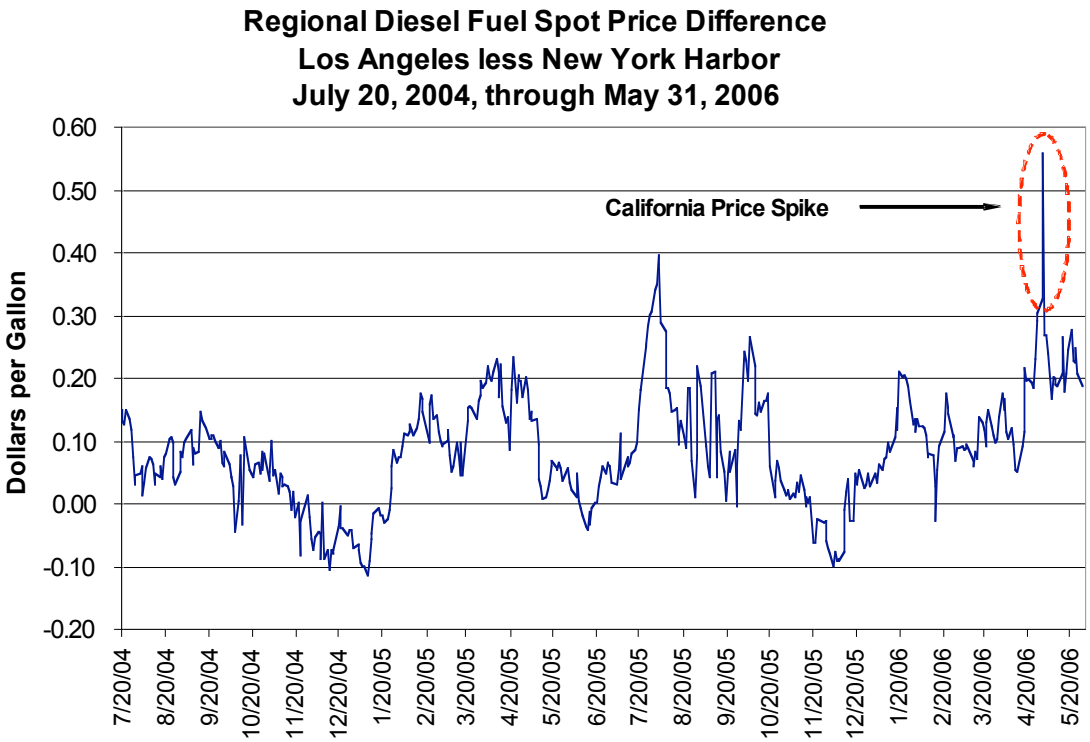


On April 18, 2006, California spot gasoline prices diverted from the historical difference of 19 cents per gallon, and started a spike to over 60 cents more than New York gasoline. The differential between California and New York prices did not return to a more "normal" difference of 18 cents per gallon for three weeks, until May 9, 2006.

During this 3-week price spike, Californians paid $122 million more for retail gasoline and diesel fuel than they otherwise would have.

The same approach was taken to isolate periods of time when the diesel fuel spot price in Los Angeles diverged significantly from a similar market outside of California. **Figure 4** illustrates this diesel fuel spot price difference over the same period of time as the gasoline comparison. It is evident from this figure that there was a change in California's diesel fuel market and prices in Southern California increased substantially, relative to diesel fuel prices in New York Harbor.

Figure 4



Over the entire period depicted in **Figure 4**, the average diesel fuel spot price difference averaged 9 cents per gallon. Examining smaller periods of time, the difference appears to be increasing. For example, during the last half of 2004 the difference averaged only 4 cents per gallon, compared to an average difference of 8 cents per gallon for all of 2005 and 14 cents for the first five months of 2006. The differential between these two regions began to deviate significantly on April 20, 2006, and reached a peak difference of 56 cents per gallon on May 3, 2006. But unlike the case with gasoline spot prices, the differential does not return to a more "normal" range following the initial price spike. Instead, it appears that the diesel fuel spot prices in California have adjusted to a higher differential plateau of roughly 20 cents per gallon.

Figures 3 and 4 seem to indicate that there were additional factors that contributed to the spike in transportation fuel spot prices for the California market. Since the relative prices of crude oil are similar throughout the United States -- and more importantly, the differences between crude oil prices essentially remained the same between April and May 2006 -- other potential factors likely contributed to increased market price differentials in California during April 2006.

Examination of Market Factors in the Final Report

A number of different market factors will be examined in the Final Report. Examples of these various factors that can impact the supply and market price of California transportation fuels include:

- Refinery planned maintenance and unplanned outages that may have reduced production of gasoline and diesel fuel
- Inventory levels for petroleum products which were lower than normal for the spring months
- Pipeline exports to neighboring states that may be higher than seasonal averages
- Potential congestion of petroleum marine infrastructure operations limiting or delaying the distribution of imported gasoline and diesel fuel supplies
- Transition to new fuel specifications that may have increased production costs or temporarily constrained supply
- Changing demand for gasoline and diesel fuel
- Costs
- Profits

Prices in the nearby regions of Arizona, Nevada, and the Pacific Northwest will be examined in the Final Report to help determine if the California price spike of April 2006 was greater in scope and possibly included the entire West Coast.

Consumer Impacts: Refiner and Retail Outlet Profitability

In addition to examining the potential factors responsible for the April 2006 price spike, the Final Report will analyze:

- Financial impacts on consumers and businesses from higher retail transportation fuel costs
- Changes in profits and costs for refiners and retail service station operators
- Comparison of costs and profits to the rest of the United States

Retail Price Impacts on Consumers

Rapid increases in wholesale spot prices do not always transfer through completely to the retail level. The reason for this is that the dominant wholesale transaction for gasoline is a delivered price to the service station that is referred to as Dealer Tank Wagon (DTW), not the spot pipeline transaction (spot price). DTW prices are estimated to account for between 70 and 75 percent of all wholesale gasoline transactions in California. Distribution terminal sales account for 25 to 30 percent of the wholesale price transactions for gasoline in California. These types of transactions are referred to as branded and unbranded rack sales. Branded rack sales include detergent and deposit control additives specific to individual brands of gasoline, such as Techron for gasoline destined for Chevron service stations.[11]

Unbranded rack sale transactions contain generic additives for gasoline usually destined for independent service stations.

The potential economic impact on California consumers and businesses is usually estimated by determining the magnitude and duration of the retail price increase compared to similar periods of time for the previous year. Estimates for weekly demand are then multiplied by the weekly differences in retail prices for both gasoline and diesel fuel.

Costs and Profits – Refiners and Retail Service Station Operators

The Energy Commission posts gasoline refining margin data on its website once each week, but does not post diesel fuel refining margins.[12] Margins are not calculated by summing the costs and profits for all of California's refiners; instead the apparent gasoline refining margin is estimated as the difference between an average wholesale gasoline price and the price of a representative type of crude oil processed in the state's refineries.[13] Refining margins are depicted as both branded and unbranded, using branded and unbranded rack wholesale gasoline prices in the separate calculations. **Figure 5** depicts the variable nature of these apparent gasoline refining margins over time.

Figure 5

California Apparent Gasoline Refining Margins
Weekly Averages
January 4, 1999, to June 5, 2006

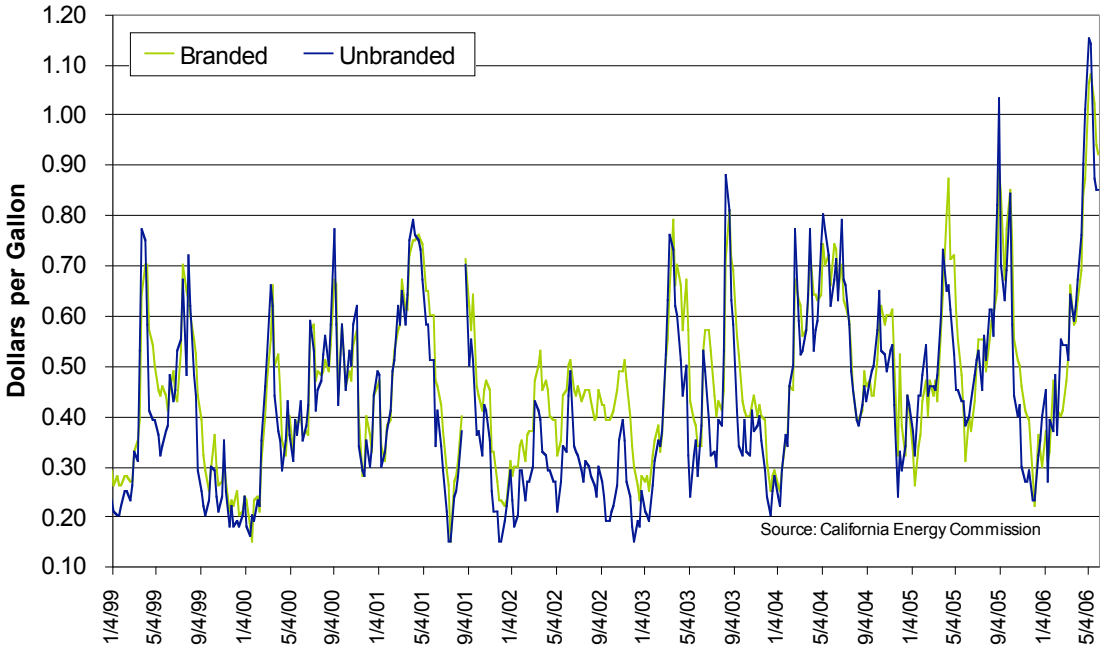
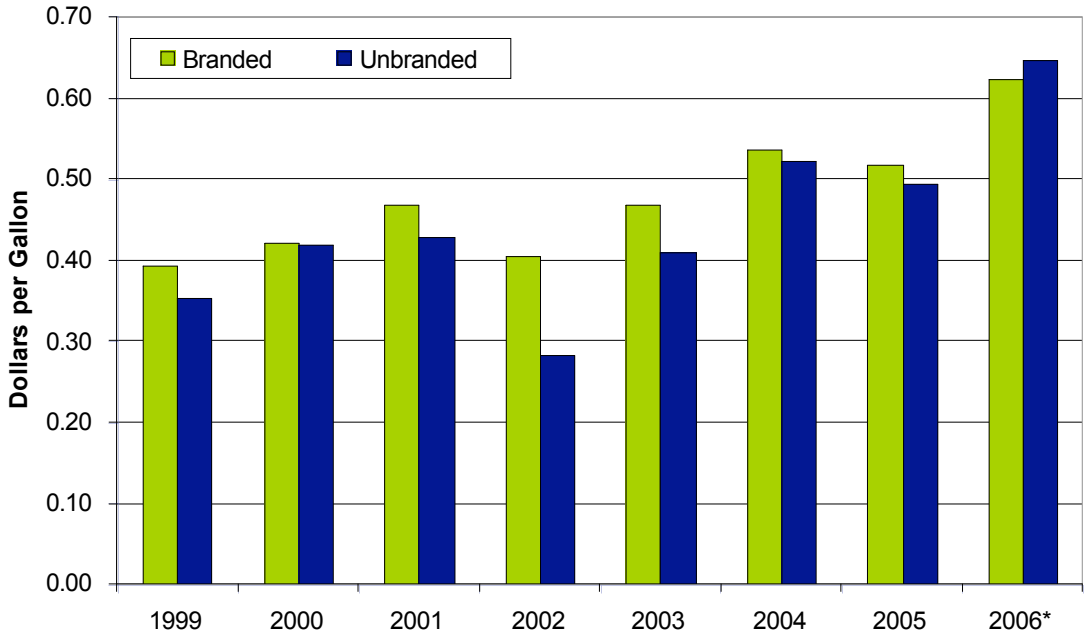


Figure 6 depicts the average annual gasoline refining margins for California since 1999. As the chart indicates, the average gasoline refining margin appears to be increasing over time. But it should be noted that the data for 2006 is only a partial year that contains a price spike during the early spring. The final average apparent gasoline refining margin for 2006 will be different from the partial year average.

Figure 6

California Apparent Gasoline Refining Margins
Annual Averages
1999 to 2006



Source: California Energy Commission
* To Date

The apparent margins are meant to serve as an indicator of changing trends for refining and retail operations. However, the margin data should not be misconstrued to be the equivalent of profits because it is a combination of all refinery operational costs (excluding the purchase of crude oil) and profits. To untangle the costs and profits from one another, the Energy Commission will need to collect additional confidential information from California's refiners. The proper way to accurately calculate California refining profits is to take all revenue streams for all refined products and subtract all costs incurred for the refinery operations. With regard to retail profits, the proper approach is to take all revenue streams for all sales (fuels and non-fuel products) and subtract all costs incurred for the retail operations.

To accomplish these tasks and better address the Governor's directive, the Energy Commission is in the early stages of obtaining detailed refinery and retail operational information from California's petroleum companies. The information will include, at a minimum, the following:

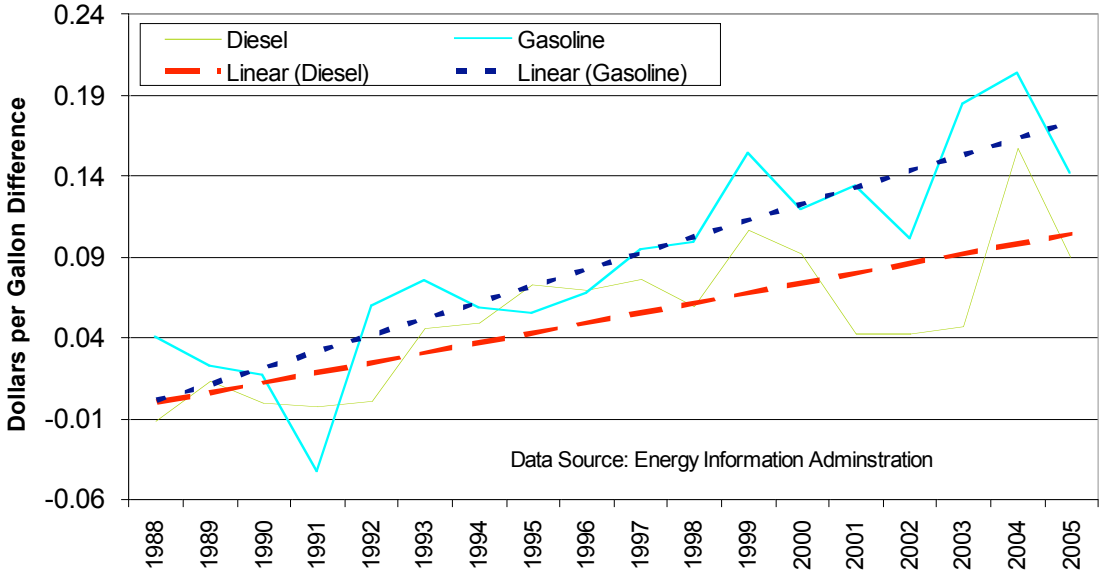
- Acquisition prices and quantities for crude oil and other refinery feedstocks
- Refinery operating costs for wages, maintenance, turnarounds, taxes, and fees
- Refinery sales prices and volumes by type of refined product and type of wholesale transaction
- Volumes and sales revenue by product type for all owned and operated retail outlets
- Revenue from sales of non-petroleum products at retail service stations
- Retail operating costs such as employee wages, rents, taxes, purchased wholesale petroleum products, and purchased non-petroleum products

Comparing Costs and Profits – California versus the Rest of the United States

Refining margins in California have consistently exceeded those of the United States since 1992. In fact, according to data from the Energy Information Administration, the refining margin differences between California and the United States have been increasing for both gasoline and diesel fuel. **Figure 7** illustrates these differences and uses trend lines to show that gasoline refining margins are growing at a faster rate than diesel refining margins.

Figure 7

Refining Margin Differences
Gasoline and Diesel Fuel
California Less United States
1988 - 2005



The Energy Commission will collect similar cost and profit information from California oil companies for refining and retail operations outside the state. This ensures that an accurate comparison can be conducted to determine if the growing refining

margin differences are a result of increasing California profits or increasing U.S. costs. In addition, the Energy Commission will compare the level of profits for the California refiners to other energy businesses and other non-petroleum industries to gauge their relative ranking. The aggregated results of these comparisons will be included in the Final Report published by September 30, 2006.

Information Collection and Authority

Current Data Collection Activity and Authority

The Energy Commission collects confidential information from California refiners, marketers, retailers, importers, exporters, terminal operators, and pipeline companies. Data is collected on weekly, monthly, and annual frequencies. Generally, supply and demand information is collected, with minimal attention to prices. No cost information is currently collected. The statutory authority to collect this information is provided by the Petroleum Industry Information Reporting Act (PIIRA) (PRC sections 25350 – 25366).[14] This information is used in a variety of applications such as:

- Analysis used in the *Integrated Energy Policy Report*
- Development of transportation fuel price forecasts
- Responses to information inquiries from the Governor, Legislature, or the public
- Assessment of market supply implications resulting from unplanned refinery outages and pipeline disruptions
- Preparation of specialty reports
- Publication of petroleum and transportation fuel-related statistics on our website[15]

The Governor directed the Energy Commission to "conduct a thorough examination of the profits" of the petroleum industry. To complete an investigation into petroleum industry profits, the Energy Commission will require access to additional detailed confidential information from the oil companies, including cost information, for both their refining and retail operations. At this time, it is not clear whether PRC section 25254(f) provides the Energy Commission with statutory authority to compel the industry to *routinely* report all of the information necessary to assess the profitability of California's petroleum industry. However, other statutes, including California Government Code sections 11180, *et seq*. provide the Energy Commission with authority to investigate the industry's profitability on an *ad hoc* basis.

The California Attorney General is conducting a similar, but not identical, investigation of the oil companies doing business in California. Officers of the oil companies have already been issued subpoenas and are being required to produce documents. To avoid duplication of efforts and redundant requests for confidential information, the Energy Commission is working in cooperation with the Attorney General to obtain a portion of the information that will be necessary to quantify costs

and profits. Like the Attorney General, the Energy Commission may also issue subpoenas and interrogatories as a means to compel the companies to provide confidential cost and profit information.

New Authority Requirements

New legislative language clarifying the Energy Commission's data collection authority under Public Resources Code section 25254(f) would enable the Energy Commission to routinely collect cost and revenue information, perform analysis, and periodically publish reports with aggregated data that both summarizes the profitability of California's petroleum refining and retail business activities, and compare the industry's profitability with petroleum industry profits earned elsewhere in the United States. This amendment is the same approach taken by the Legislature when it recently added new subsection (i) to section 25354 (see, in particular, new subsection (i)(3).)

With regard to retail service station costs and profits, the Energy Commission does not possess an accurate or complete list of independent retail outlets. To determine if there are differences in profitability between refiner-owned and operated retail outlets and independent retail outlets, we need to obtain an accurate accounting of these facilities. The California State Board of Equalization (BOE) has statutory authority to collect taxes and business information from retail outlet operators but is prohibited from sharing a list of all retail outlets with other state agencies. If the confidentiality statutes applicable to the BOE (California Revenue and &Tax Code section 756 and California Civil Code section 1798.69) were amended to enable the agency to share their service station information with the Energy Commission, on a confidential basis, the Energy Commission would be able to expand its analysis of retail service station profitability to all relevant segments of the retail sector.

Finally, it is not clear if the Energy Commission currently has statutory authority to compel refiners and petroleum market traders to routinely provide daily accounting of spot pipeline transactions. To better assess the potential severity of temporary market disruptions, closer monitoring of daily spot pipeline transactions would more accurately gauge the relative degree of supply problems. Currently, only spot pipeline prices for refined products are reported on a daily basis; the Energy Commission has no information as to volumes and companies involved in these daily transactions. Access to this type of information on a routine basis would enable the Energy Commission to monitor the change in spot activity (volume) to ascertain the relative importance of rapid price fluctuations. Amendments to the current Petroleum Industry Information Reporting Act data collection statute (California Public Resources Code section 25354) could provide the necessary authority to conduct this work.

Conclusion

The Energy Commission's initial investigation of suspected market manipulation, price gouging, or unfair business practices by the petroleum industry has shown that California experienced a price spike not evident in other areas of the nation during a three-week period in the spring of 2006. Additional detailed petroleum industry data on refinery and retail operations, supply, demand, costs, and profits is necessary for the Energy Commission to complete its investigation. The Energy Commission has sufficient statutory authority to collect additional data and is preparing to obtain the necessary information from the petroleum industry. If the Energy Commission is to routinely collect this type of information, the Legislature would need to amend the Petroleum Industry Information Reporting Act.

For the September 30, 2006, Final Report to the Governor, the Energy Commission will be collecting the additional data from the petroleum industry to analyze those factors that may have contributed to the spike in California's wholesale and retail prices, including refinery operations, inventory levels, pipeline exports, marine infrastructure congestion, new fuels specifications, changing transportation fuel demand, and industry costs and profits. An estimate of the financial impact on California consumers and businesses from higher transportation fuel prices, aggregated costs and profits comparison of California's petroleum industry with other regions of the nation, and a comparison of the profitability of California's refining industry to other types of businesses will also be performed.

End Notes

[1] Text of Governor Schwarzenegger's letter can be obtained from the following link: http://www.energy.ca.gov/consumerfuels/2006-04-24_governor_letter.html

[2] "Price Gouging" is specifically defined at law as potentially occurring only when a state of emergency is declared. Since a statewide emergency was not declared during the period of these price increases, the Energy Commission's investigation is examining whether the spring 2006 price spike represents instances of industry participants charging exploitive prices. However, for simplicity's sake, this Interim Report will refer to exploitive prices as "price gouging."

[3] Text of Chairman Desmond's letter can be found at the following link: http://www.energy.ca.gov/releases/2006_releases/2006-04-25_desmond_briefing/2006-04-25_DESMOND_RESPONSE_TO_GOV_GAS_PRICES.PDF

[4] Text of Attorney General Lockyer's press release can be found at the following link: http://ag.ca.gov/newsalerts/release.php?id=1297

[5] *2005 Gasoline Price Movements in California*, Staff Report, California Energy Commission, publication number CEC-600-2005-035, November 2005, page 8. A copy of this report can be viewed at the following link: http://www.energy.ca.gov/2005publications/CEC-600-2005-035/CEC-600-2005-035.PDF

[6] Ibid, page 3.

[7] The *California Consumers Fuels Watch* web page may be accessed at the following link: http://www.energy.ca.gov/consumerfuels/index.html

[8] Access to the Attorney General's complaint form is as follows: http://ag.ca.gov/antitrust/gasoline/complaint.php?rt=1

[9] The highest level reached during the spring of 2006 was $2.97 per gallon for Los Angeles RBOB on May 2, 2006, as reported by the Energy Information Administration (EIA). RBOB refers to **R**eformulated gasoline **B**lendstock for **O**xygenate **B**lending which is the base gasoline prior to the addition of ethanol. Spot prices refer to pipeline quantity transactions of greater than 5,000 barrels. These prices can be accessed at the following EIA link: http://tonto.eia.doe.gov/dnav/pet/pet_pri_spt_s1_d.htm

[10] Los Angeles spot price of RBOB increased from $1.95 on August 18 to a peak of $2.96 on August 31, 2005.

[11] A brief description of Techron and the reasons for including the additive in gasoline delivered to Chevron service stations can be found in the following Chevron press release: http://www.chevron.com/news/press/2004/2004-06-17.asp A more detailed technical explanation of Chevron deposit control additives can be found at the following Chevron web site: http://www.chevron.com/products/prodserv/fuels/techrongas/advantage.shtml

[12] Access to the Energy Commission gasoline margins can be found at the following link: http://www.energy.ca.gov/gasoline/margins/index.html

[13] The Energy Commission uses the average weekly price of Alaska North Slope as a proxy for the composite crude oil acquisition cost for California's refiners. During 2005, approximately 20 percent of the crude oil processed by California refiners was from Alaska. An annual break down of the crude oil sources for California refineries can be found at the following link: http://www.energy.ca.gov/oil/statistics/crude_oil_receipts.html

[14] A history of PIIRA, the relevant statutes, detailed description of information collected, and examples of data collection forms is located at the following link: http://www.energy.ca.gov/oil/piira/index.html

[15] Oil and petroleum statistics, along with related reports, may be accessed from the following link: http://www.energy.ca.gov/oil/index.html